



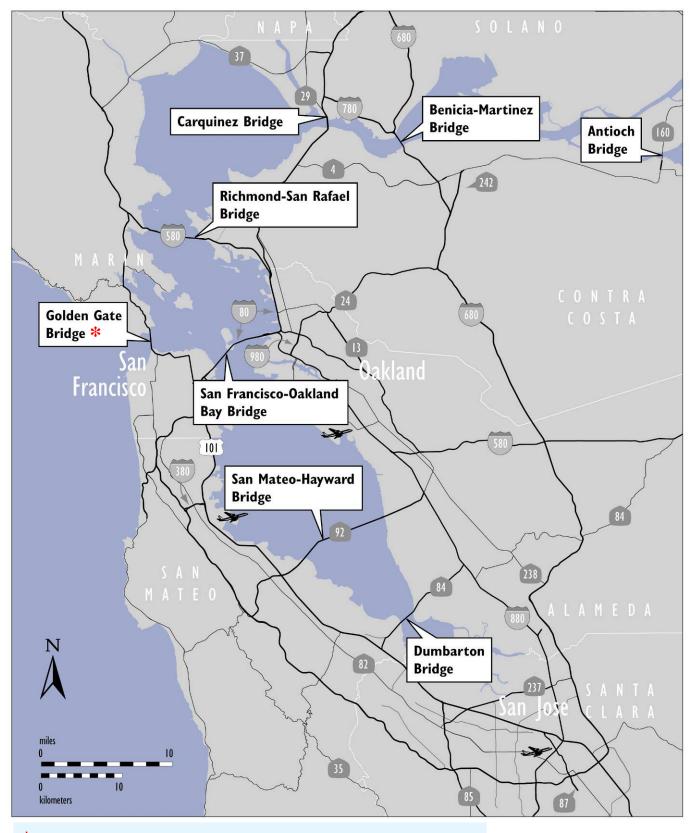
# **Toll Bridge Seismic Retrofit and Regional Measure 1 Programs**

Monthly Progress Report February 2009

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# Toll Bridges of the San Francisco Bay Area



 $<sup>^{</sup>f{\star}}$  Under the jurisdiction of the Golden Gate Bridge, Highway and Transportation District

# **INTRODUCTION**

In July 2005, Assembly Bill 144, (AB 144) Hancock created the Toll Bridge Project Oversight Committee (TBPOC) to implement a project oversight and project control process for the state Toll Bridge Seismic Retrofit Program projects and the Benicia-Martinez Bridge project. The TBPOC comprises the Director of the California Department of Transportation (Caltrans), the Executive Director of the Bay Area Toll Authority (BATA) and the Director of the California Transportation Commission (CTC). The TBPOC's project oversight and control processes include, but are not limited to, reviewing bid specifications and documents, providing field staff to review ongoing costs, reviewing and approving significant change orders and claims in excess of \$1 million (as defined by the committee) and preparing project reports.

AB 144 identified the Toll Bridge Seismic Retrofit Program and the new Benicia-Martinez Bridge Project as being under the direct oversight of the TBPOC. The Toll Bridge Seismic Retrofit Program includes:

Toll Bridge Seismic Retrofit Projects	Seismic Safety Status
San Francisco-Oakland Bay Bridge East Span Replacement	Construction
San Francisco-Oakland Bay Bridge West Approach Replacement	Complete
San Francisco-Oakland Bay Bridge West Span Seismic Retrofit	Complete
San Mateo-Hayward Bridge Seismic Retrofit	Complete
Richmond-San Rafael Bridge Seismic Retrofit	Complete
Eastbound Carquinez Bridge Seismic Retrofit	Complete
New Benicia-Martinez Bridge Seismic Retrofit	Complete
San Diego-Coronado Bridge Seismic Retrofit	Complete
Vincent Thomas Bridge Seismic Retrofit	Complete

The new Benicia-Martinez Bridge is part of a larger program of toll-funded projects, called the Regional Measure 1 (RM1) Toll Bridge Program, under the responsibility of the BATA. While the rest of the projects in the RM1 program are not directly under the responsibility of the TBPOC, BATA and Caltrans will continue to report on their progress as an informational item. The RM1 program includes:

RM1 Projects	Open to Traffic Status
Interstate 880/State Route 92 Interchange Reconstruction	Construction/Open
Old Benicia-Martinez Bridge Reconstruction	Construction/Open
New Benicia-Martinez Bridge	Open
Richmond-San Rafael Bridge Deck Overlay Rehabilitation	Open
Richmond-San Rafael Bridge Trestle, Fender & Deck Joint Rehabilitation	Open
Westbound Carquinez Bridge Replacement	Open
San Mateo-Hayward Bridge Widening	Open
State Route 84 Bayfront Expressway Widening	Open
Richmond Parkway	Open

This report focuses on identifying critical project issues and monitoring project cost and schedule performance for the projects as measured against approved budgets and schedule milestones. This report is intended to fulfill Caltrans' requirement to provide monthly project progress reporting to the TBPOC under Section 30952.05 of the Streets and Highway Code.

# **EXECUTIVE SUMMARY**

# Toll Bridge Seismic Retrofit Program—Cost (\$ Millions)

Project	Work Status	AB 144 / SB 66 Budget (07/20/05)	Approved Changes	Current Approved Budget (01/2009)	Cost To Date (01/2009)	Cost Forecast* (01/2009)	At- Completion Variance	Cost Status
a	b	С	d	e = c + d	f	g	h = g - e	i
SFOBB East Span Replacement Project								
Capital Outlay Support		959.3	-	959.3	685.9	977.1	17.8	
Capital Outlay Construction		-	_	-		-	-	
Skyway	Complete	1,293.0	(38.9)	1,254.1	1,236.7	1,254.1	-	•
SAS E2/T1 Foundations	Complete	313.5	(32.6)	280.9	275.0	280.9	-	•
SAS Superstructure	Construction	1,753.7	-	1,753.7	617.5	1,767.4	13.7	
YBI Detour	Design/Const	132.0	310.2	442.2	277.0	461.2	19.0	
YBI Transition Structures		299.3	(23.2)	276.1	-	276.1	-	•
* YBITS Contract No. 1	Design	-	-	-	-	214.3	-	
* YBITS Contract No. 2	Design	-	-	-	-	58.5	-	
* YBITS Contract No. 3 - Landscape	Design	-	-	-	-	3.3	-	
Oakland Touchdown (OTD)		283.8		283.8	153.3	302.5	18.7	
* OTD Submarine Cable	Complete	_	_	_	7.9	9.6		•
* OTD No. 1 (Westbound)	Construction				145.4	226.5		•
* OTD No. 2 (Eastbound)	Design				143.4	62.0		
* OTD Electrical Systems	Design					4.4		
Existing Bridge Demolition	Design	239.2		239.2		222.0	(17.2)	
Stormwater Treatment Measures	Complete	15.0	3.3	18.3	16.7	18.3	(17.2)	
East Span Completed Projects	Complete	90.3	- 3.3	90.3	89.2	90.3		
Right-of-Way and Environmental Mitigation		70.3		72.4	50.1	70.3		_
Other Budgeted Capital		35.1	(3.3)	31.8	0.7	7.7	(24.1)	
Total SFOBB East Span Replacement Project		5,486.6	215.5	5,702.1	3,402.1	5,730.0	27.9	
SFOBB West Approach Replacement	Construction	3,700.0	213.3	3,702.1	J,402.1	3,730.0	21.7	•
Capital Outlay Support	Construction	120.0	_	120.0	113.5	120.0	_	•
Capital Outlay Construction		309.0	41.7	350.7	307.1	350.7	_	
Total SFOBB West Approach Replacement		429.0	41.7	470.7	420.6	470.7	_	
Richmond-San Rafael Bridge Retrofit	Complete	-	-	- 10.7	420.0			•
Capital Outlay Support	Complete	134.0	(7.0)	127.0	126.7	127.0		
Capital Outlay Construction & Right-of-Way		780.0	(90.5)	689.5	668.1	689.5		
Total Richmond-San Rafael Bridge Retrofit		914.0	(97.5)	816.5	794.8	816.5		
Program Completed Projects	Complete	714.0	(77.5)	010.5	774.0	010.3	_	
Capital Outlay Support	Complete	219.8	-	219.8	219.4	219.8	-	
Capital Outlay Construction		705.6	_	705.6	699.0	705.6	-	
Total Program Completed Projects		925.4	_	925.4	918.4	925.4		
Miscellaneous Program Costs		30.0		30.0	24.7	30.0	_	
Program Contingency		900.0	(159.7)	740.3	24.7	712.4	(27.9)	
rogram contingency		8,685.0	(137.1)	8,685.0	5,560.6	8,685.0	(21.7)	

\*Current contract allotment to install two submarine electrical cables is \$11.5 million. Additional non-program funding to support this allocation beyond the \$9.6 million of available program funds has been made available by the Treasure Island Development Authority.

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Wilhin Approved Current Schedule and Budget
 Potential Cost and Schedule Impacts: Possible future need for Program Contingency Allocation
 Known Cost and Schedule Impacts: Request for Program Contingency Allocation forthcoming

# Toll Bridge Seismic Retrofit Program—Schedule

Project	AB 144 / SB 66 Project Complete Baseline (07/2005)	Approved Changes (Months)	Project Complete Current Approved Schedule (01/2009)	Project Complete Schedule Forecast (01/2009)	Schedule Variance (Months)	Schedule Status	Remarks
a SFOBB East Span Replacement Proj	b ect	С	d = b + c	е	f = e – d	g	h
Skyway	Apr 07	8	Dec 07	Dec 07	-	•	See page 10.
SAS E2/T1 Foundations	Jun 08	(5)	Jan 08	Jan 08	-	•	
SAS Superstructure	Mar 12	12	Mar 13	Mar 13	-		See discussion on page 12.
YBI Detour	Jul 07	36	Jun 10	Jun 10	-	•	See discussion on page 16.
YBI Transition Structures	Nov 13	12	Nov 14	Nov 14	-	•	
Oakland Touchdown (OTD)	Nov 13	12	Nov 14	Nov 14	-		See Note.
OTD Submarine Cable	n/a		Jan 08	Jan 08	-		
OTD Weath and			M 10	M 10			
OTD Westbound	n/a	-	May 10	May 10	-	•	
OTD Eastbound	n/a	-	Nov 14	Nov 14	-	•	
Existing Bridge Demolition	Sep 14	12	Sep 15	Sep 15	-	•	See Note.
Stormwater Treatment Measures	Mar 08	-	Mar 08	Mar 08	-	•	
<ul> <li>Open to Traffic Date: Westbound</li> </ul>	Sep 11	12	Sep 12	Sep 12	-	•	See Note.
<ul> <li>Open to Traffic Date:</li> <li>Eastbound</li> </ul>	Sep 12	12	Sep 13	Sep 13	-	•	See Note.
SFOBB West Approach Replacement	Aug 09	(6)	Feb 09	Feb 09	·	•	Seismic retrofit completed December 22, 2008. Ongoing punchlist and closeout items scheduled for completion in February 2009.
<ul> <li>Open to Traffic Date: Mainline Realignment</li> </ul>	n/a	-	Apr 08	Apr 08	-	•	Opened to traffic April 12, 2008
Richmond-San Rafael Bridge							
Seismic Retrofit	Aug 05	(1)	Jul 05	Jul 05	-	•	Seismic retrofit completed July 29, 2005. Formal acceptance of contract October 28, 2005. \$89 million has been transferred to Program Contingency.

Note: Schedules for selected projects and the Open to Traffic dates were extended by 12 months from the AB144/SB66 baseline schedule due to Addenda #5 and #7 on the SAS Superstructure contract.

# Regional Measure 1 Program—Cost (\$ Millions)

Project	Work Status	BATA Budget (07/2005)	Approved Changes	Current Approved Budget (01/2009)	Cost To Date (01/2009)	Cost Forecast* (01/2009)	At- Completion Variance	Cost Status
a	b	С	d	e = c + d	f	g	h = g - e	i
New Benicia-Martinez Bridge Project	Construction							•
Capital Outlay Support		157.1	35.2	192.3	185.8	192.3	-	
Capital Outlay Construction		861.6	173.5	1,035.1	978.6	1,035.1	-	
Capital Outlay Right-of-Way		20.4	(0.1)	20.3	17.0	20.3	-	
Project Reserve		20.8	4.0	24.8	-	24.8	-	
Total New Benicia-Martinez Bridge Project		1,059.9	212.6	1,272.5	1,181.4	1,272.5		
Carquinez Bridge Replacement Project	Complete							•
Capital Outlay Support		124.4	(0.2)	124.2	123.8	123.9	(0.3)	
Capital Outlay Construction		381.2	3.2	384.4	378.8	384.5	0.1	
Capital Outlay Right-of-Way		10.5	-	10.5	9.9	10.5	-	
Project Reserve		12.1	(3.0)	9.1	-	0.3	(8.8)	
Total Carquinez Bridge Replacement Project		528.2	-	528.2	512.5	519.2	(9.0)	
I-880/SR-92 Interchange Reconstruction	Construction							•
Capital Outlay Support		28.8	26.2	55.0	45.0	55.0	-	
Capital Outlay Construction		94.8	60.2	155.0	54.7	155.0	-	
Capital Outlay Right-of-Way		9.9	7.0	16.9	11.6	16.9	-	
Project Reserve		0.3	17.8	18.1	-	18.1	-	
Total I-880/SR-92 Interchange Reconstruction		133.8	111.2	245.0	111.3	245.0	-	
Program Completed Projects	Complete							
Capital Outlay Support		62.0	(5.0)	57.0	57.5	58.8	1.8	
Capital Outlay Construction		324.4	3.6	328.0	308.0	313.0	(15.0)	
Capital Outlay Right-of-Way		1.7	-	1.7	0.5	0.8	(0.9)	
Project Reserve		2.6	1.4	4.0	-	7.1	3.1	
<b>Total Program Completed Projects</b>		390.7	-	390.7	366.0	379.7	(11.0)	
Total Regional Measure 1 Program		2,112.6	323.8	2,436.4	2,171.2	2,416.4	(20.0)	

Within Approved Current Schedule and Budget

Potential Cost and Schedule Impacts: Possible future need for Program Contingency Allocation

Known Cost and Schedule Impacts: Request for Program Contingency Allocation forthcoming

Notes: Details may not sum to totals due to rounding effects.

Forecasts for the Monthly Reports are generally updated on a quarterly basis in conjunction with Risk Analysis assessments for the TBSRP Projects and the TBSRP Quarterly Reports.

# Regional Measure 1 Program—Schedule

Project	BATA Project Complete Baseline (07/2005)	Approved Changes (Months)	Project Complete Current Approved Schedule (01/2009)	Project Complete Schedule Forecast (01/2009)	Schedule Variance (Months)	Schedule Status	Remarks
a	b	С	d = b + c	е	f = e - d	g	h
New Benicia-Martinez Bridge Project  • Existing Bridge & Interchange Modifications	Dec 09	-	Dec 09	Oct 09	(2)	•	See page 31.
Open to Traffic Date	Dec 07	-	Aug 07	Aug 07	-	•	
I-880/SR-92 Interchange Reconstruction	Dec 10	-	Jun 11	Jun 11	-	•	

# Highlights of Project/Program Activities and TBPOC Actions for February 2009

### **Toll Bridge Seismic Retrofit Program**

### West Approach Replacement Project

On the San Francisco-Oakland Bay Bridge West Approach Seismic Replacement Project, Caltrans certified seismic safety on the project in December 2008 - eight months ahead of schedule. On February 9, 2009, Caltrans reopened the Harrison Street westbound off ramp from the Bay Bridge after being closed for over three years for construction. The contract was substantially completed in February 2009 with final closeout and punchlist work remaining.

### **SFOBB East Span Seismic Replacement Project**

• On the San Francisco-Oakland Bay Bridge East Span Replacement Project, the Self Anchored Suspension (SAS) Span contractor continues with fabrication of the bridge in China and erection of temporary support structures in the bay. The TBPOC and contractor continue to negotiate a schedule mitigation proposal for the contract to accelerate the work. The SAS contractor shipped the shearleg crane barge in February 2009 from China with a scheduled arrival in March 2009. On the Yerba Buena Island Detour contract, the contractor continues to erect the detour structure that will divert traffic off the existing transition structures that tie the existing bridge with the Yerba Buena Island tunnel. The traffic switch is expected to be opened by the end of 2009.

### **New Benicia-Martinez Bridge Project**

◆ On the Existing Benicia-Martinez Bridge Modification Contract, work to modify the old southbound I-680 bridge to add an additional traffic lane and bicycle/pedestrian lane is proceeding. Caltrans is forecasting the work to be completed two months ahead of schedule in October 2009.



(6.1) Yerba Buena Island Detour Skid Bent Structure

# **PROJECT / CONTRACT REPORTS**

# Toll Bridge Seismic Retrofit Program

San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project Summary

- Skyway Contract
- Self-Anchored Suspension (SAS) E2/T1 Foundations Contract
- Self-Anchored Suspension (SAS) Superstructure Contract
- Yerba Buena Island (YBI)

Yerba Buena Island Detour (YBID) Contract

Yerba Buena Island Transition Structure (YBITS) Contracts

- Oakland Touchdown (OTD)

Oakland Touchdown (OTD) Submarine Cable Relocation Contract

Oakland Touchdown (OTD) #1 Contract

Oakland Touchdown (OTD) #2 Contract

- Other Major Contracts
- Other Contracts and Related Project Work

San Francisco-Oakland Bay Bridge (SFOBB) West Approach Replacement Project

Other Completed Seismic Retrofit Projects

# San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project Summary

Project Description: The East Span will be seismically retrofitted through the complete replacement of the existing span. The remaining effort for this project consists of the following contracts: SAS Superstructure—construction of a self-anchored 385-meter main span superstructure incorporating a 160-meter fabricated structural steel tower with a main cable and inclined suspenders that will support steel orthotropic box girder decks; Yerba Buena Island (YBI) Detour—design and construction of a temporary double-deck bypass structure that will detour traffic to the existing SFOBB, while completing the westerly permanent tie-in structure of the new East Span at Yerba Buena Island; YBI Structures—construction of a new structure connecting the western end of the self-anchored suspension to the Yerba Buena Island viaduct, which will be retrofitted; Oakland Touchdown—at the Oakland end of the East Span, construction of two parallel, cast-in-place post-tensioned concrete viaducts, which join the Skyway to the at-grade Oakland approach fill; and Existing Bridge Demolition—demolition of the existing 1936 SFOBB East Span structure after the construction and placement of traffic onto the new East Span.

### SFOBB East Span Replacement Cost Summary (\$ Millions)

Contract	AB 144/ SB 66 Budget	Approved Changes	Current Approved Budget (01/2009)	Cost To Date (01/2009)	Cost Forecast (01/2009)	Variance
a	b	С	d = b + c	е	f	g = f - d
Capital Outlay Support	959.3	-	959.3	685.9	977.1	17.8
Capital Outlay	-	-	-	-	-	-
Skyway	1,293.0	(38.9)	1,254.1	1,236.7	1,254.1	-
SAS E2/T1 Foundations	313.5	(32.6)	280.9	275.0	280.9	-
SAS Superstructure	1,753.7	-	1,753.7	617.5	1,767.4	13.7
YBI Detour	132.0	310.2	442.2	277.0	461.2	19.0
YBI Transition Structures	299.3	(23.2)	276.1	-	276.1	-
* YBITS 1	-	-	-	-	214.3	-
* YBITS 2	-	-	-	-	58.5	-
* YBITS 3 - Landscape	-	-	-	-	3.3	-
Oakland Touchdown	283.8	-	283.8	153.3	302.5	18.7
* OTD Submarine Cable	-	-	-	7.9	9.6	-
* OTD Westbound	-	-	-	145.4	226.5	-
* OTD Eastbound	-	-	-	-	62.0	-
* OTD Electrical Systems	-	-	-	-	4.4	-
Existing Bridge Demolition	239.2	-	239.2	-	222.0	(17.2)
Stormwater Treatment Measures	15.0	3.3	18.3	16.7	18.3	-
East Span Completed Projects	90.3	-	90.3	89.2	90.3	-
Right-of-Way and Environmental Mitigation	72.4	-	72.4	50.1	72.4	-
Other Budgeted Capital	35.1	(3.3)	31.8	0.7	7.7	(24.1)
TOTAL	5,486.6	215.5	5,702.1	3,402.1	5,730.0	27.9

### SFOBB East Span Replacement Schedule Summary

Contract	AB 144/SB 66 Contract Completion Baseline (07/2005)	Approved Changes (Months)	Contract Complete Current Approved Schedule (01/2009)	Contract Complete Schedule Forecast (01/2009)	Schedule Variance (Months)
Skyway	April 2007	8	December 2007	December 2007	-
YBI Detour*	July 2007	36	June 2010	June 2010	-
Stormwater Treatment Measures	March 2008	-	March 2008	March 2008	-
SAS E2/T1 Foundations	June 2008	(5)	January 2008	January 2008	-
SAS Superstructure	March 2012	12	March 2013	March 2013	-
Oakland Touchdown (OTD)	November 2013	12	December 2014	December 2014	-
* OTD Submarine Cable	n/a	-	January 2008	January 2008	-
* OTD No. 1 (Westbound)	n/a	-	May 2010	May 2010	-
* OTD No. 2 (Eastbound)	n/a	-	November 2014	November 2014	-
YBI Transition Structure*	November 2013	12	November 2014	November 2014	-
Existing Bridge Demolition*	September 2014	12	September 2015	September 2015	-
Open to Traffic: Westbound	September 2011	12	September 2012	September 2012	-
Open to Traffic: Eastbound	September 2012	12	September 2013	September 2013	-

<sup>\*</sup>Contract schedules being further assessed due to changes in SAS schedule.

**Project Status**: Construction is complete for the Skyway, SAS E2/T1 Foundations and Stormwater Treatment Measures contracts. Construction is currently ongoing for the YBI Detour, SAS Superstructure, and OTD #1 (westbound) contracts. Contracts in design include the OTD #2 (eastbound), YBITS Contract #2 and the Existing Bridge Demolition contract. Design of each contract is proceeding per its schedule requirements. The YBI Transition Structure (YBITS) Contract #1 has been advertised.

**Project Issues:** All projects except Demolition have a Risk Response Team and a Risk Register incorporating quantitative risk analyses. A Risk Register has also been developed for Capital Outlay Support (COS) costs, as well as a program-level risk register that captures risks common to all project. The development of a quantitative COS risk analysis is ongoing and is trending higher COS costs for the project.

The Risk Response Team for COS is evaluating the program costs and developing response actions to mitigate. Many of the actions have been effective, as evidenced by a reduction of risk impacts on the Skyway and E2/T1 contracts from the previous quarter. The effort to develop and execute risk response actions to mitigate the cost and schedule impacts posed by risk issues continues to be a high priority.

**Recent TBPOC Actions:** See the following contract detail pages for specific TBPOC actions on the East Span contracts.

### San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

### **▶ SKYWAY CONTRACT**

**Contract Description:** On the SFOBB East Span Replacement Project, the Skyway contract constructed twin pre-cast concrete segmental bridges that will connect the Oakland approach traffic to the new SAS.

**Skyway Cost Summary (\$ Millions)** 

Contract a	AB 144 / SB 66 Budget (07/2005)	Approved Changes c	Current Approved Budget (01/2009) d = b + c	Cost To Date (01/2009)	Cost Forecast (01/2009) f	Variance g = f - d
East Span - Skyway						
Capital Outlay Support	197.0	(16.0)	181.0	181.0	181.0	-
Capital Outlay Construction	1,293.0	(38.9)	1,254.1	1,236.7	1,254.1	-
TOTAL	1,490.0	(54.9)	1,435.1	1,417.7	1,435.1	-

Note: Details may not sum to totals due to rounding effects.

**Skyway Schedule Summary** 

Contract	AB 144/SB 66 Contract Completion Baseline (07/2005)	Approved Changes (Months)	Contract Complete Current Approved Schedule (01/2009)	Contract Complete Schedule Forecast (01/2009)	Schedule Variance (Months)
East Span - Skyway	April 2007	7	December 2007	December 2007	-

### **Contract Status:**

• The contract was substantially completed by the end of 2007 and Caltrans accepted the Skyway Contract on March 24, 2008 upon completion of final punchlist items.

Contract Issues: None.



(10.1) Aerial View of the East Span's Skyway Looking towards W2 and Yerba Buena Island

# San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

# ▶ Self-Anchored Suspension (SAS) E2/T1 Foundations Contract

**Contract Description**: The Self-Anchored Suspension (SAS) Span E2/T1 Foundation contract constructed the main tower foundation at location T1 and the foundations and columns of the first pier east of the main tower at location E2 in San Francisco Bay. The foundations and columns of the first pier west of the main tower located at W2 on Yerba Buena Island were completed under a separate earlier contract.

**SAS E2/T1 Foundations Cost Summary (\$ Millions)** 

Contract a	AB 144 / SB 66 Budget (07/2005) b	Approved Changes c	Current Approved Budget (01/2009) d = b + c	Cost To Date (01/2009) e	Cost Forecast (01/2009) f	Variance g = f - d
East Span - SAS E2 / T1 Foundations						
Capital Outlay Support	52.5	(21.5)	31.0	28.4	31.0	-
Capital Outlay Construction	313.5	(32.6)	280.9	275.0	280.9	-
TOTAL	366.0	(54.1)	311.9	303.4	311.9	-

Note: Details may not sum to totals due to rounding effects.

SAS E2/T1 Foundations Schedule Summary

Contract	AB 144/SB 66 Contract Completion Baseline (07/2005)	Approved Changes (Months)	Contract Complete Current Approved Schedule (01/2009)	Contract Complete Schedule Forecast (01/2009)	Schedule Variance (Months)
East Span - SAS E2 / T1 Foundations	June 2008	(5)	January 2008	January 2008	-

### **Contract Status:**

 The SAS E2/T1 Marine Foundations Contract was completed and accepted by Caltrans on January 18, 2008.
 With completion of this contract, all foundations for the SAS have now been completed.

Contract Issues: None.



(11.1) E2 Completed Column

# San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

### ▶ SELF-ANCHORED SUSPENSION (SAS) SUPERSTRUCTURE CONTRACT

**Contract Description**: The Self-Anchored Suspension (SAS) Superstructure contract constructs a signature tower span between the Skyway and the Yerba Buena Island transition structure. Work on the SAS bridge has been split between three contracts—the SAS Superstructure (under construction), the SAS E2/T1 Foundation (completed), and the SAS W2 Foundation (completed).

**SAS Superstructure Cost Summary (\$ Millions)** 

Contract a	AB 144 / SB 66 Budget (07/2005) b	Approved Changes c	Current Approved Budget (01/2009) d = b + c	Cost To Date (01/2009) e	Cost Forecast (01/2009) f	Variance g = f - d
East Span - SAS Superstructure						
Capital Outlay Support	214.6	-	214.6	128.5	214.6	-
Capital Outlay Construction	1,753.7	-	1,753.7	617.5	1,767.4	13.7
TOTAL	1,968.3	-	1,968.3	746.0	1,982.0	13.7

Note: Details may not sum to totals due to rounding effects.

**SAS Superstructure Schedule Summary** 

Contract	AB 144/SB 66 Contract Completion Baseline (07/2005)	Approved Changes (Months)	Contract Complete Current Approved Schedule (01/2009)	Contract Complete Schedule Forecast (01/2009)	Schedule Variance (Months)
East Span - SAS Superstructure	March 2012	12	March 2013	March 2013	-

### **Contract Status:**

- SAS project is 38% complete based on the expended value of the contract as of January 2009.
- The Pier E2 crossbeam concrete pour was completed in December 2008.
- Ongoing field and marine work includes the construction of the permanent bent caps at W2 (with the last
  concrete pour scheduled for February 2009) and the erection of temporary structures that will support the
  steel bridge deck of the SAS structure during construction.
- Various portions of the bridge are under fabrication around the world. Zhenhua Port Machinery Company (ZPMC) of Shanghai, China has been subcontracted to supply and fabricate all the major steel elements of the SAS. Caltrans has audited the ZPMC facilities and has organized quality assurance resources in China that will ensure an effective owner's presence in the steel fabrication shops. While significant progress has been made on the decks and towers, the SAS contractor has stated that the fabrication schedule for the roadway boxes is behind schedule. The contractor and the TBPOC have negotiated a tentative agreement to accelerate the work. The agreement is expected to be finalized in the first quarter of 2009. The cost for this agreement is within the contract contingency set aside for these types of issues and should not affect the program contingency or budget. The shearleg crane barge to be used to lift the bridge sections into place is scheduled to arrive in the Bay Area in March 2009.

### **Contract Issues:**

schedule.

### Issue

The SAS contractor has stated that the fabrication schedule for the Orthotropic Box Girder (OBG) is behind schedule. While not yet on the critical path for the project, this delay may increase and result in additional cross-impacts to the corridor

# Mitigating Action

The contractor and the TBPOC have negotiated a tentative agreement to accelerate the work. The agreement is expected to be finalized in the first quarter of 2009.



(13.1) Self Anchored Suspension Bridge E2 Crossbeam Concrete Placed



(13.2) Self Anchored Suspension Bridge W2 Cap Beam

# **Contract Photographs from Changxing Island, China**

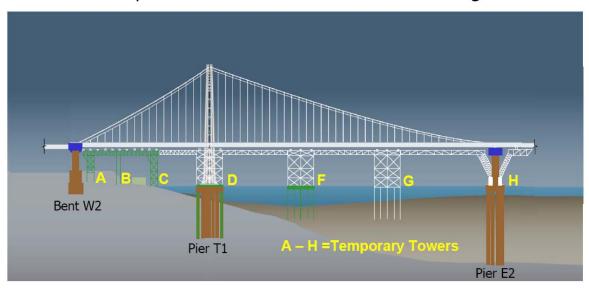


(14.1) Tower Fabrication Shop 1



(14.2) First Completed Deck Segment

# SAS Superstructure Fieldwork Construction Progress



SAS field work to be completed
SAS temporary field work in progress
Completed field work under prior W2 and E2/T1 contracts

SAS permanent facilities field work progress



(15.1) Tower Fabrication Shop

# San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

### ► YERBA BUENA ISLAND DETOUR (YBID)

**Contract Description:** The YBI Detour constructs a temporary detour from the YBI tunnel to the existing east span of the Bay Bridge. This detour maintains traffic on the existing bridge while the YBI Transition Structure Contract completes the tie-in from the SAS to the existing tunnel.

Yerba Buena Island Detour (YBID) Cost Summary (\$ Millions)

<u>Contract</u> a	AB 144 / SB 66 Budget (07/2005) b	Approved Changes C	Current Approved Budget (01/2009) d = b + c	Cost To Date (01/2009) e	Cost Forecast (01/2009)	Variance g = f - d
YBI Detour						
Capital Outlay Support	29.4	36.6	66.0	56.6	66.0	-
Capital Outlay Construction	132.0	310.2	442.2	277.0	461.2	19.0
TOTAL	161.4	346.8	508.2	333.6	527.2	19.0

Note: Details may not sum to totals due to rounding effects.

Yerba Buena Island Detour (YBID) Schedule Summary

Contract	AB 144/SB 66 Contract Completion Baseline (07/2005)	Approved Changes (Months)	Contract Complete Current Approved Schedule (01/2009)	Contract Complete Schedule Forecast (01/2009)	Schedule Variance (Months)
YBI Detour *	July 2005	40	June 2010	June 2010	-

<sup>\*</sup> Contract schedule under assessment. See Contract Issues on the following page.

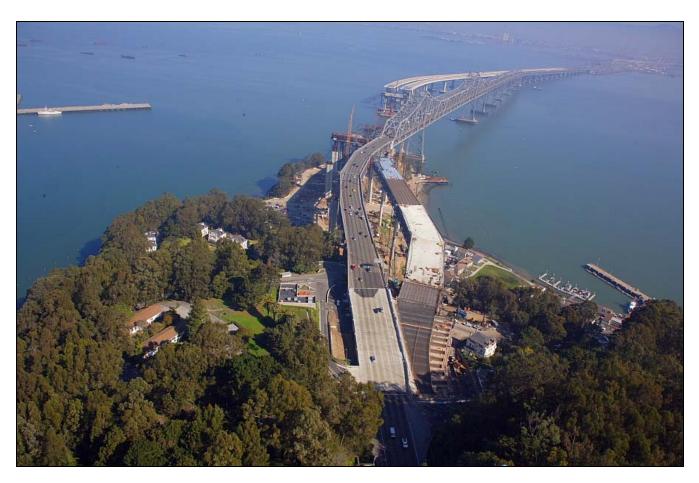
### **Contract Status:**

- The TBPOC has approved a number of scope and schedule changes to better time the opening of the
  detour with the current revised project schedule. Along with pacing the construction of the detour
  bridge for an opening in mid to late 2009, select bridge work for the Yerba Buena Island transition
  structures was advanced on the detour contract to minimize construction schedule delay risks from
  construction delays on bridge foundations.
- The detour viaduct construction continues with erection of the west tie-in and viaduct structures and fabrication of the east tie-in roll-in viaduct and support structures (see photos on the following page).
- The east tie-in to the existing bridge foundation construction continues and roll-out roll-in detour structure erection has started on Yerba Buena Island. Fabrication of the detour beams and trusses continues. The east tie-in field work is 54% complete as of January 2009.
- The advanced work on the substructures foundations and columns on the Yerba Buena Island Transition contract is continuing. As of January 2009, 64% of the advanced work has been completed.

**Recent TBPOC Actions:** None.

Contract Issues: None.

Issue	Mitigating Action			
Caltrans will need to negotiate a number of contract change orders to implement the aforementioned changes to the contract.	The TBPOC has approved a plan of action to implement the changes. Caltrans is currently negotiating outstanding contract changes.			



(17.1) Aerial View of Yerba Buena Island Detour (YBID) on Right – Yerba Buena Island Transition Structures (YBITS) Progress on Left

### San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

### ► YERBA BUENA ISLAND TRANSITION CONTRACTS (YBITS)

Contract Description: The Yerba Buena Island Transition Structure (YBITS) contracts will construct the mainline YBI transition structures that will connect the Self-Anchored Suspension (SAS) portion of the new bridge to the newly rolled in West Tie-in Phase I structure. YBITS #1 will construct the mainline approach structure from the new bridge to the WTI Phase I structure. YBITS #2 will demolish the Yerba Buena Island Detour (YBID) temporary structure, complete the new eastbound on-ramp, reconstruct local affected facilities at YBI and complete the bike path from the SAS to YBI (except for a section of the path that conflicts with existing column E1). That section of the path is contemplated to be completed in the demolition contract. A YBI landscaping contract will restore slopes and vegetation in areas affected by the YBI construction.

Yerba Buena Island Transition Structure (YBITS) Cost Summary (\$ Millions)

	AB 144/	· ·	Current	<b>J</b> ( +		
Contract	SB 66 Budget (07/2005)	Approved Changes	Approved Budget (01/2009)	Cost To Date (01/2009)	Cost Forecast (01/2009)	Variance
a	b	С	d = b + c	е	f	g = f - d
Capital Outlay Support	78.7	-	78.7	23.1	78.7	-
Capital Outlay Construction	-	-	-		-	-
YBITS Contract #1	-	-	-	-	214.3	-
YBITS Contract #2	-	-	-	-	58.5	-
YBITS Contract #3 - Landscape	-	-	-	-	3.3	-
Total Capital Outlay Construction	299.3	(23.2)	276.1	-	276.1	-
TOTAL	378.0	(23.2)	354.8	23.1	354.8	-

Note: Details may not sum to totals due to rounding effects.

Yerba Buena Island Transition Structure (YBITS) Schedule Summary

Contract	AB 144/SB 66 Contract Completion Baseline (06/2005)	Approved Changes (Months)	Contract Complete Current Approved Schedule (01/2009)	Contract Complete Schedule Forecast (01/2009)	Schedule Variance (Months)
YBI Transition Structure	November 2013	12	November 2014	November 2014	-

### **Contract Status:**

- The Yerba Buena Transition Structure #1 contract was advertised in August 2008. Caltrans held a contractor's outreach for the contract in September 2008. An addendum was issued on October 24, 2008 changing the bid opening date from January 13, 2009 to July 13, 2009.
- The remaining Yerba Buena Island bridge contracts will be advertised at a later date per the project schedule requirement.
- Some foundations and columns for the transition structure are currently being installed by the YBID contract (see photos #19.1 through #19. 4 and the Project Progress Diagram in Appendix D).

Contract Issues: None.

# **Contract Photographs**



(19.1) Yerba Buena Island Transition Structure Support



(19.2) Yerba Buena Island Transition Support Structure



(19.3) Yerba Buena Island Transition Structure Soil Nail Wall



(19.4) Yerba Buena Island Transition Structure on the Left and Yerba Buena Island Detour Structure on the Right

### San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

# **▶** OAKLAND TOUCHDOWN (OTD) CONTRACTS

Contract Descriptions: The Oakland Touchdown #1 contract includes construction of all the marine foundations and land foundations (except for the eastbound abutment), a westbound bridge section, and one frame of the eastbound bridge section and roadway approach connecting the new Skyway portion to the roadway west of the Oakland Toll Plaza. The Oakland Touchdown #2 contract includes construction of the remaining eastbound bridge section and roadway approach for the section connecting the new Skyway portion to the roadway west of the Oakland Toll Plaza. This work would occur once the westbound traffic is shifted onto the new westbound bridge, including the SAS. The Submarine Cable Relocation Contract replaced the existing submarine electrical cable from Oakland to Treasure Island and was completed ahead of the OTD Contract #1, which avoided potential construction conflicts.

Oakland Touchdown Cost Summary (\$ Millions)

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (01/2009)	Cost To Date (01/2009)	Cost Forecast (01/2009)	Variance
a	b	С	d = b + c	е	f	g = f - d
Capital Outlay Support	74.4	-	74.4	50.8	92.1	17.7
Capital Outlay Construction	-	-	-		-	-
OTD Submarine Cable	-	-	-	7.9	9.6	-
Oakland Touchdown #1	-	-	-	145.4	226.5	-
Oakland Touchdown #2	-	-	-	-	62.0	-
Oakland Touchdown Electrical	-	-	-	-	4.4	-
Total Capital Outlay Construction	283.8	-	283.8	153.3	303.5	18.7
TOTAL	358.2	-	358.2	204.1	394.6	36.4

Note: Details may not sum to totals due to rounding effects. The allocation of AB144/SB 66 budgets is proceeding. Budget amount is TBD. Overall OTD budgets and forecasts are shown on page 2.

# Oakland Touchdown Schedule Summary

Contract	AB 144/SB 66 Contract Completion Baseline (6/2005)	Approved Changes (Months)	Contract Complete Current Approved Schedule (01/2009)	Contract Complete Schedule Forecast (01/2009)	Schedule Variance (Months)
OTD Submarine Cable	-	-	January 2008	January 2008	-
Oakland Touchdown #1	-	-	May 2010	May 2010	-
Oakland Touchdown #2	-	-	November 2014	November 2014	-

### **Contract Status**

- The Oakland Touchdown #1 contract is 72% complete based on the expended value of the contract, as of January 2009 (see progress diagram in Appendix E).
- On the westbound bridge, the contractor has completed all foundation work and is now proceeding on the superstructure with the last concrete pour scheduled in April 2009.
- Work is ongoing on the foundation and columns for the eastbound approach bridge (see photo #'s 21.1 and 21.2 on the facing page).
- Foundation work for the new mole substation has been completed and manhole and conduit installation has begun.
- The submarine cable relocation contract was competed in January 2008. The Oakland Touchdown #2 contract is in design and will be advertised at a later date per the project schedule.

# **Contract Photographs**



(21.1) Oakland Touchdown Aerial View



(21.2) Oakland Touchdown Completed Pier (18R)

### San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

### **▶ OTHER CONTRACTS**

**Contract Descriptions:** Other major contracts include the Stormwater Treatment Measures contract, which implements best practices for storm water runoff treatment at the SFOBB toll plaza and approaches to the SFOBB toll plaza, and the Existing Bridge Demolition contract, which implements the complete removal of the existing 1936 east span following the opening of the new bridge.

Other Major Contracts Cost Summary (\$ Millions)

Contract	AB 144 / SB 66 Budget (6/2005)	Approved Changes	Current Approved Budget (01/2009)	Cost To Date (01/2009)	Cost Forecast (01/2009)	Variance
а	b	С	d = b + c	е	f	g = f - d
Capital Outlay Support	85.7	2.0	87.7	8.5	87.7	-
Capital Outlay Construction	-	-	-		-	-
Existing Bridge Demolition	239.2	-	239.2	-	222.0	(17.2)
StormwaterTreatment Measures	15.0	3.3	18.3	16.7	18.3	-
Total Capital Outlay Construction	254.2	3.3	257.5	16.7	240.3	(17.2)
TOTAL	339.9	5.3	345.2	25.2	328.0	(17.2)

Note: Details may not sum to totals due to rounding effects.

**Other Major Contracts Schedule Summary** 

Contract	AB 144/SB 66 Contract Completion Baseline (07/2005)	Approved Changes (Months)	Contract Complete Current Approved Schedule (01/2009)	Contract Complete Schedule Forecast (01/2009)	Schedule Variance (Months)	% Design Comp.
Existing Bridge Demolition	September 2014	12	September 2015	September 2015	-	10
Stormwater Treatment Measures	March 2008	-	March 2008	March 2008	-	N/A

### **Contract Status:**

Stormwater Treatment Measures: The contract was substantially completed in December 2007.

**Bridge Demolition:** Design work has been temporarily suspended to assign engineering resources to higher priority tasks, and will resume at a later time. The contract schedule completion date has been extended by 12 months due to a 12-month SAS contract extension. The \$17.2 million decrease in construction costs for the Existing Bridge Demolition contract is due to a re-evaluation of cost escalation rates for the contract.

Contract Issues: None.

### San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

### **▶ OTHER COMPLETED CONTRACTS AND RELATED WORK**

**Summary Description**: Substantial work has already been performed on the SFOBB East Span Replacement project to facilitate construction of the mainline construction contracts.

Other Contracts and Related Work Cost Summary (\$ Millions)

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (01/2009) d = b + c	Cost To Date (01/2009)	Cost Forecast (01/2009)	Variance
Capital Outlay Support	227.0	(1 0)		e 209.0	227.0	g = f - d
Capital Outlay Support		(1.0)	226.0		226.0	-
Right-of-Way and Environmental Mitigation	72.4	-	72.4	50.1	72.4	-
Capital Outlay Construction	-	-	-		-	-
SAS W2 Foundations	26.4	-	26.4	25.8	26.4	-
YBI/SAS Archaeology	1.1	-	1.1	1.1	1.1	-
YBI - USCG Road Relocation	3.0	-	3.0	2.8	3.0	-
YBI - Substation and Viaduct	.6	-	11.6	11.3	11.6	-
Oakland Geofill	8.2	-	8.2	8.2	8.2	-
Pile Installation Demonstration Project	9.2	-	9.2	9.2	9.2	-
Existing East Span Retrofit	30.8	-	30.8	30.8	30.8	-
Total Capital Outlay Construction Completed	90.3	-	90.3	89.2	90.3	-
TOTAL	389.7	(1.0)	388.7	348.3	388.7	-

Note: Details may not sum to totals due to rounding effects.

Other Contracts and Related Work Schedule Summary

Strict Contracts and Related Work Contracts Cummary				
<b>Proj</b> ect	Actual Project Completion Date			
Existing East Span Retrofit	March 1998			
Interim Retrofit	July 2000			
Pile Installation Demolition Project	December 2000			
YBI / SAS Archaeology	January 2003			
Oakland Geofill	April 2003			
YBI – USCG Road Relocation	June 2004			
SAS W2 Foundations	October 2004			
YBI Substation and Viaduct	May 2005			

### **Summary Status:**

Construction has been completed on the above-listed contracts. Caltrans continues to work with various
environmental agencies to conduct compliance inspections and monitor and mitigate any environmental
impacts from the project.

Contract Issues: None.

# San Francisco-Oakland Bay Bridge (SFOBB) West Approach Replacement Project

**Project Description:** The SFOBB West Approach Replacement Project will replace the entire west approach structure from 5th Street to the west anchorage of the existing west spans of the SFOBB while maintaining existing traffic lanes for the weekday commute.

SFOBB West Approach Replacement Cost Summary (\$ Millions)

Project a	AB 144 / SB 66 Budget (07/2005) b	Approved Changes c	Current Approved Budget (01/2009) d = b + c	Cost To Date (01/2009) e	Cost Forecast (01/2009)	Variance g = f - d
West Approach						
Capital Outlay Support	120.0	-	120.0	113.5	120.0	-
Capital Outlay Construction	309.0	41.7	350.7	307.1	350.7	-
TOTAL	429.0	41.7	470.7	420.6	470.7	-

Note: Details may not sum to totals due to rounding effects.

**SFOBB West Approach Replacement Schedule Summary** 

Project	AB 144/SB 66 Project Completion Baseline (07/2006)	Approved Changes (Months)	Project Complete Current Approved Schedule (01/2009)	Contract Complete Schedule Forecast (01/2009)	Schedule Variance (Months)
West Approach	August 2009	(7)	January 2009	January 2009	-
Open-to-Traffic Date: Mainline Realignment			April 2008	April 2008	-

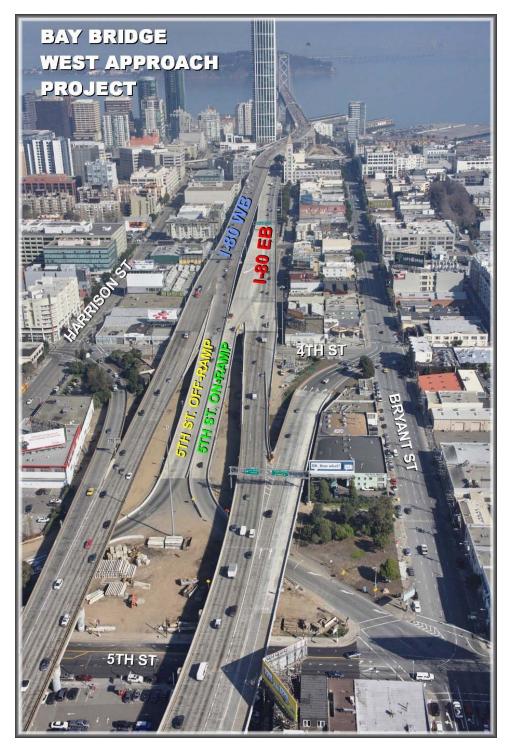
### **Project Status:**

- Caltrans certified seismic safety for the West Approach structures ahead of schedule on December 22, 2008. Caltrans and its contractor will be completing final closeout and punchlist work on the contract through the first quarter of 2009. The Sterling Street eastbound on ramp opened on its final alignment in November 2008 and the Harrison Street westbound off ramp opened on February 9, 2009.
- The TBPOC revised the overall project budget to \$470.7 million during the fourth quarter of 2008 to cover final project closeout costs and costs associated with achieving early project completion, while minimizing impacts to the public and remaining construction risks. Savings from the sale of excess project right-of-way upon project completion will be available later to offset project costs. The overall project budget and forecast remains within the overall TBSRP contingency capacity and will result in no change to the overall program budget.

**Project Issues:** None.

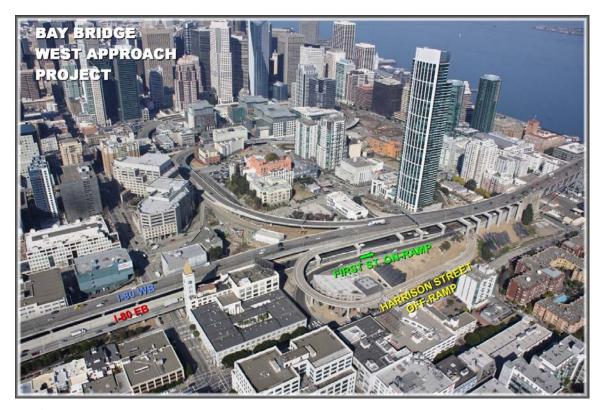
Contract Issues: None.

# **Contract Photographs**



(25.1) I-80 Eastbound

# **Contract Photographs (Cont.)**



(26.1) Aerial view of the West Approach



(26.2) I-80 Westbound

# Other Completed Seismic Retrofit Projects

**Summary Description**: Caltrans has already completed the seismic retrofits of the West Spans of the SFOBB, the existing 1958 Carquinez Bridge, the existing Benicia-Martinez Bridge, the San Mateo-Hayward Bridge, the Richmond-San Rafael Bridge, and two former toll bridges in Southern California.

Other Completed Seismic Retrofit Projects Cost Summary (\$ Millions)

Project a	AB 144 / SB 66 Budget (07/2005) b	Approved Changes c	Current Approved Budget (01/2009) d = b + c	Cost To Date (01/2009)	Cost Forecast (01/2009) f	Variance g = f - d
San Francisco-Oakland Bay Bridge West Span Seismic Retrofit Project	307.9	-	307.9	302.0	307.9	-
Carquinez Bridge Retrofit Project	114.2	-	114.2	114.2	114.2	-
Benicia-Martinez Bridge Retrofit Project	177.8	-	177.8	177.8	177.8	-
San Mateo-Hayward Bridge Retrofit Project	163.5	-	163.5	163.4	163.5	-
Vincent Thomas Bridge Retrofit Project	58.5	-	58.5	58.4	58.5	-
San Diego-Coronado Bridge Retrofit Project	103.5	-	103.5	102.6	103.5	-
Richmond San Rafael Bridge (RSRB) Seismic Retrofit Project	914.0	(97.5)	816.5	794.8	816.5	-
TOTAL	1,839.4	(97.5)	1,741.9	1,713.2	1,741.9	-

Note: Details may not sum to totals due to rounding effects. Capital Outlay Support and Capital Outlay have been combined.

Other Completed Seismic Retrofit Projects Schedule Summary

Project	Actual Project Completion Date
Vincent Thomas Bridge Retrofit	May 2000
San Mateo-Hayward Bridge Retrofit	June 2000
Carquinez Bridge Retrofit	January 2003
San Diego-Coronado Bridge Retrofit	June 2003
Benicia-Martinez Bridge Retrofit	August 2003
SFOBB West Span Seismic Retrofit	June 2004
RSRB Seismic Retrofit	August 2005

**Summary Status:** The budget and cost forecast amounts shown above include allowances for minor project closeout costs.

Contract Issues: None.

### Other Toll Bridges

### The Dumbarton Bridge

State Route 84 crosses the southern region of San Francisco Bay between the cities of Newark to the east and East Palo Alto to the west (see photo #28.1). The route consists of three lanes in each direction and an eight-foot bicycle/pedestrian lane. The annual average daily traffic (AADT) of the route is near 60,000. The bridge is over 2 km in length and is positioned in an approximately normal geometry between two seismic faults. The

United States Geological Survey (USGS) reports that the San Andreas Fault, some 15 km to the west of the bridge, and the Hayward Fault, some



(28.1) The Dumbarton Bridge

13 km to the east of the bridge, pose most of the significant seismic threat to the San Francisco Bay Area.

### **History**

In late 2004, Caltrans initiated limited vulnerability studies of the Antioch Bridge and the Dumbarton Bridge. These studies were completed in May 2005. Based on the vulnerability studies and a follow-up sensitivity analysis, Caltrans and BATA developed a work plan to refine the seismic analysis and to assess the required performance levels of each structure, including a new geotechnical analysis. In June 2006, BATA approved \$17.8 million in toll bridge rehabilitation funding to proceed with the comprehensive seismic analysis of the bridges. In September 2006, BATA entered into a consultant contract to conduct geotechnical and geophysical investigations, which have been ongoing since December 2006. Based on the analysis, Caltrans determined that the Dumbarton and Antioch bridges require seismic retrofit.

A strategy meeting took place on August 22, 2008 for both projects and consensus by the project teams recommended retrofit strategies for both bridges. Both the Dumbarton and Antioch Bridge seismic retrofit strategies include installation of isolation bearings and strengthening of the piers above the water line. The Dumbarton Bridge retrofit strategy also includes superstructure and deck modifications and additional strengthening of the over-land approach slab structures. The Antioch Bridge retrofit strategy includes relatively minor modifications to the approach structure on Sherman Island. It was concluded at this meeting that foundation retrofit is not required for either bridge. The design teams presented their proposed strategy schemes and the results of their analysis to the Toll Bridge Seismic Safety Peer Review Panel on September 24, 2008.

### **Current Progress**

At the December 17, 2008 BATA meeting, a presentation was made updating the Authority on the Dumbarton and Antioch seismic retrofit evaluations and included the most recent schedules and cost projections. A total cost estimate of \$950 million for both projects was presented with construction contracts for both bridges scheduled to be awarded in 2010 and completed in 2012 (Antioch) and 2013 (Dumbarton).

Full funding for the project has not yet been identified, but will likely come from a combination of sources, such as toll increases, or other federal structures and toll bridges.

The design teams are continuing their work on the design plans for the projects. Risk management meetings were held in December 2008 and January 2009 to discuss the risks associated with the retrofit strategy for each bridge. The design teams are continuing to meet with the appropriate regulatory agencies to discuss the scope of work and the schedules, as well as the environmental issues affecting both bridges.

Project specific design criteria for the Dumbarton Bridge retrofit project was supported by laboratory testing of a large scale mock-up (1/3 actual size, see photo # 29.1).

The environmental process is continuing for both projects, and once the design/retrofit strategy is completed, all the permit applications will be submitted to the appropriate agencies for approval.



(29.1) Dumbarton Specimen at Testing Laboratory



# PROJECT / CONTRACT REPORTS

# Regional Measure 1 Program

New Benicia-Martinez Bridge Project Summary

- New Benicia-Martinez Bridge Contract
- Other Contracts and Related Project Activities

Interstate 880 State Route 92 Interchange Reconstruction

Other Completed Regional Measure 1 Projects

- San Mateo-Hayward Bridge Widening Project
- Richmond Parkway Project
- Bayfront Expressway Widening Project
- Richmond-San Rafael Bridge Trestle, Fender, and Deck Joint Rehabilitation Project
- Richmond-San Rafael Bridge Deck Overlay Project
- New Carquinez Bridge Project

### Regional Measure 1 Program

#### New Benicia-Martinez Bridge Project Summary

**Project Description:** The new Benicia-Martinez Bridge Project has constructed a new parallel bridge just east of the existing bridge. The project includes reconstructed interchanges to the north and south of the bridges and a new toll plaza and administration building in Martinez.

**New Benicia-Martinez Bridge Project Cost Summary (\$ Millions)** 

Contract a	BATA Budget (07/2005) b	Approved Changes c	Current Approved Budget (01/2009) d = b + c	Cost To Date (01/2009)	Cost Forecast (01/2009)	Variance q = f - d
Capital Outlay Support	157.1	35.2	192.3	185.8	192.3	g - 1 u
Right-of-Way and Others	20.4	(0.1)	20.3	17.0	20.3	-
Capital Outlay	-	-	-		-	-
New Bridge	672.0	94.6	766.6	763.8	766.6	-
I-680/I-780 Interchange Replacement	76.3	26.9	103.2	98.8	103.2	-
I-680/Marina Vista Interchange Reconstruction	51.5	4.9	56.4	56.1	56.4	-
New Toll Plaza	24.3	2.0	26.3	23.5	26.3	-
Existing Bridge & Interchange Modifications	17.2	42.3	59.5	20.2	59.5	-
Other	20.3	2.8	23.1	16.2	23.1	-
Project Reserve	20.8	4.0	24.8	-	24.8	-
TOTAL	1,059.9	212.6	1,272.5	1,181.4	1,272.5	-

Note: Details may not sum to totals due to rounding effects.

The budget and estimate at completion includes approximately \$33 million in non-toll bridge funds (Proposition 192 and SHOPP).

**New Benicia-Martinez Bridge Project Schedule Summary** 

Contract	BATA Contract Completion Baseline (07/2005)	Approved Changes (Months)	Contract Complete Current Approved Schedule (01/2009)	Contract Complete Schedule Forecast (01/2009)	Schedule Variance (Months)
New Bridge Open to Traffic	December 2007	-	August 2007	August 2007	-
Existing Bridge & Interchange Modifications	December 2009	-	December 2009	October 2009	(2)

#### **Project Status:**

- The new northbound bridge was opened to traffic in August 2007.
- On the New Benicia-Martinez Bridge Project, work to modify the old southbound I-680 bridge to add an
  additional traffic lane and bicycle/pedestrian lane is proceeding ahead of schedule. Caltrans is
  forecasting the work to be complete two months early in October 2009.
- The existing bridge (southbound) and interchange modification contract was 61% complete based on the expended value of the contract as of the end of January 2009.
- Stage 1 of the contract completed the removal of the old toll plaza, and repair of the bridge deck and roadway undulations on the east side of the existing bridge and south approach. Southbound traffic was realigned to the east side of the existing bridge for the start of Stage 2 work (see photos # 32.1 through #32.4).

Project Issues: None.

**Recent TBPOC Actions:** None.

## **Contract Photographs – New Benicia-Martinez Bridge Project**



(32.1) 12 Foot Deck Section Forming



(32.3) Polyester Concrete Bike Path



(32.2) CCO #6 – Remove Unsound Concrete



(32.4) The New Benicia-Martinez Bridge

### Regional Measure 1 Program

#### Interstate 880/State Route 92 Interchange Reconstruction Project

**Project Description:** Modify the existing cloverleaf interchange to increase capacity and improve safety and traffic operations.

Interstate 880/State Route 92 Interchange Cost Summary (\$ Millions)

Contract a	BATA Budget (07/2005) b	Approved Changes c	Current Approved Budget (01/2009) d = b + c	Cost To Date (01/2009)	Cost Forecast (01/2009)	Variance g = f - d
I-880/SR-92 Interchange Improvement						g . u
Capital Outlay Support	28.8	26.2	55.0	45.0	55.0	-
Capital Outlay Construction	94.8	60.2	155.0	54.7	155.0	-
Capital Outlay Right-of-Way	9.9	7.0	16.9	11.6	16.9	-
Project Reserve	0.3	17.8	18.1	-	18.1	-
TOTAL	133.8	111.2	245.0	111.3	245.0	-

Note: Details may not sum to totals due to rounding effects. \$9.6 million in ACTA funds included under Capital Outlay Construction. \$3.0 million included in Capital Outlay Construction and \$1.0 million in Capital Outlay Support for separate landscape contract.

Interstate 880/State Route 92 Interchange Schedule Summary

Project	BATA Project Completion Baseline (07/2005)	Approved Changes (Months)	Project Complete Current Approved Schedule (01/2009)	Contract Complete Schedule Forecast (01/2009)	Schedule Variance (Months)
I-880/SR-92 Interchange Reconstruction	December 2010	-	June 2011	June 2011	-

#### **Project Status:**

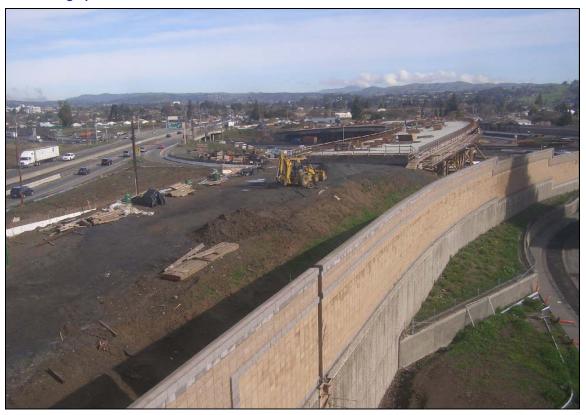
- The project is 43% complete based on the expended value of the contract as of January, 2009. On the new eastbound SR-92 to northbound I-880 flyover structure, all foundations have been completed.
- Work is now proceeding onto the flyover superstructure.
- The eastbound 92 to the northbound I-880 flyover is now 84% complete. The first opening of this bridge is scheduled for late spring of 2009, pending weather.
- Other ongoing work includes the construction of various retaining and soundwalls throughout the
  project limits, construction of a new pedestrian overcrossing of I-880 at Eldridge Avenue and widening
  of SR-92 at Mount Eden. Paving operations continue on various areas of the job.
- The Hesperian Boulevard on-ramp to eastbound SR-92 was opened October 31, 2008. The westbound SR-92 to southbound I-880 connector bridge has started and the first foundation has been poured. Substructure work is scheduled to complete by December 2010, with completion of the superstructure in March 2011.

Project Issues: None.

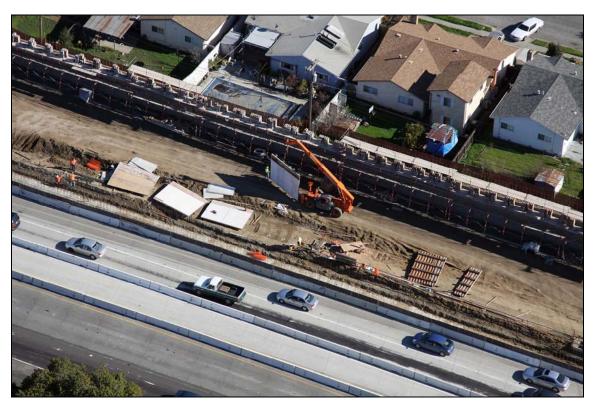
Contract Issues: None.

**Recent TBPOC Actions:** None.

#### **Contract Photographs**

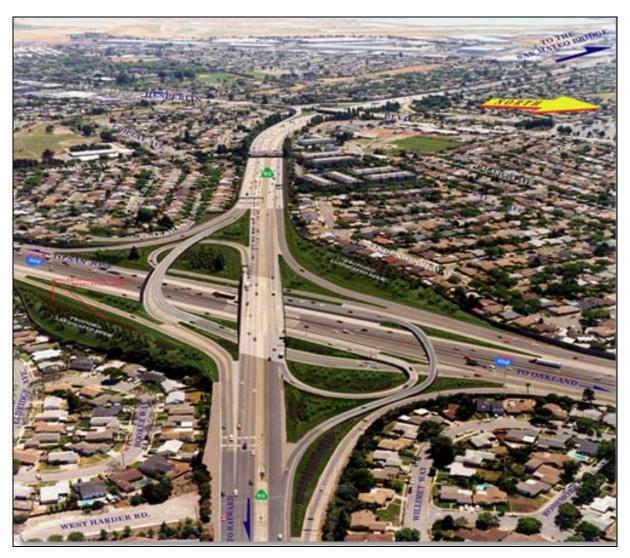


(34.1) SR-92/880 Construction Progress



(34.2) Southern view aerial shot as the crew works to finish the installation of the soundwall at eastbound SR-92 on retaining wall "G"

## **Project Photographs**



(35.2) Interstate 880/State Route 92 Interchange – At Completion

#### Regional Measure 1 Program

#### Other Completed Regional Measure 1 (RM1) Projects

Summary Description: Other completed Regional Measure 1 projects are the following: (a) Widen the San Mateo-Hayward Bridge along its low-trestle section and its eastern approach; (b) Widen the Bayfront Expressway (SR-84) from the Dumbarton Bridge to the U.S. 101/Marsh Road interchange; (c) Construct an eastern approach (Richmond Parkway) between the Richmond-San Rafael Bridge and Interstate 80 near Pinole; (d) Modify the U.S. 101/University Avenue interchange; (e) Richmond-San Rafael Bridge Trestle, Fender and Deck Joint Rehabilitation Project; (f) Richmond-San Rafael Bridge Deck Overlay Project; (g) Construct a new suspension bridge with four westbound lanes and a bicycle/pedestrian lane west of the existing Carquinez Bridge and demolition of the existing 1927 bridge.

Other Completed RM1 Projects Cost Summary (\$ Millions)

Contract a	BATA Budget (07/2005) b	Approved Changes c	Current Approved Budget (01/2009) d = b + c	Cost To Date (01/2009)	Cost Forecast (01/2009) f	Variance q = f - d
San Mateo-Hayward Bridge Widening Project	217.8	-	217.8	208.7	211.9	(5.9)
Bayfront Expressway Widening Project	36.1	-	36.1	33.4	36.0	(0.1)
Richmond Parkway Project	5.9	-	5.9	4.3	5.9	-
U.S. 101/University Interchange	3.8	-	3.8	3.7	3.8	-
RSRB Trestle, Fender, and Joint Rehabilitation	102.1	-	102.1	96.3	97.1	(5.0)
RSRB Deck Overlay	25.0	-	25.0	19.6	25.0	-
New Carquinez Bridge Project	528.2	-	528.2	512.5	519.2	(9.0)
TOTAL	918.9	-	918.9	878.5	898.9	(20.0)

**Schedule Summary** 

Project	Actual Project Completion Date
Richmond Parkway Project	May 2001
San Mateo-Hayward Bridge Widening Project	February 2003
Bayfront Expressway Widening Project	January 2004
U.S. 101/University Interchange	April 2004
Richmond-San Rafael Bridge Trestle, Fender and Deck Joint Rehabilitation	August 2005
RSR Deck Overlay	December 2006
New Carquinez Bridge Project	December 2007

#### **Project Status:**

 All significant construction has been completed on the above listed projects. The budget and cost forecasts amounts shown above include allowances for minor project closeout costs.

Project Issues: None.



#### **APPENDICES**

- A Toll Bridge Seismic Retrofit Program: San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project Cost Detail
- B Toll Bridge Seismic Retrofit Program Cost Detail
- C Yerba Buena Island Transition Structures (YBITS) Progress Diagram
- D Oakland Touchdown (OTD) #1 Progress Diagram
- E. Antioch/Dumbarton Bridge Baseline Schedule
- F. Antioch and Dumbarton Bridges Seismic Retrofit Diagrams
- G. Regional Measure 1 Program Cost Detail
- H. Glossary of Terms

<sup>\*</sup> Forecasts for the Monthly Reports are generally updated on a quarterly basis in conjunction with Risk Analysis assessments for the TBSRP Projects and the TBSRP Quarterly Reports.

# Appendix A: Toll Bridge Seismic Retrofit Program (\$ Millions)

# San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project Cost Detail

Contract	EA Number	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (01/2009)	Cost To Date (01/2009)	Cost Forecast (01/2009)	At-Completion Variance
a	b	С	d	e = c + d	f	g	h = g - e
San Francisco-Oakland Bay Bridge East Span Replacement Project							
East Span - Skyway	01202X						
Capital Outlay Support	012027	197.0	(16.0)	181.0	181.0	181.0	-
Capital Outlay Construction		1,293.0	(38.9)	1,254.1	1,236.7	1,254.1	-
Total		1,490.0	(54.9)	1,435.1	1,417.7	1,435.1	-
East Span - SAS E2/T1 Foundations Capital Outlay Support	0120EX	F2 F	(24.5)	24.0	28.4	24.0	-
Capital Outlay Support  Capital Outlay Construction		52.5 313.5	(21.5) (32.6)	31.0 280.9	26.4 275.0	31.0 280.9	
Total		366.0	(54.1)	311.9	303.4	311.9	-
East Span - SAS Superstructure	0120FX		(- /				
Capital Outlay Support	01201 X	214.6	-	214.6	128.5	214.6	-
Capital Outlay Construction		1,753.7	-	1,753.7	617.5	1,767.4	13.7
Total		1,968.3	-	1,968.3	746.0	1,982.0	13.7
SAS W2 Foundations	0120CX						
Capital Outlay Support		10.0 26.4	-	10.0 26.4	9.2 25.8	10.0	-
Capital Outlay Construction  Total		36.4	-	36.4	35.0	26.4 36.4	-
	040007	30.4		30.4	33.0	30.4	
YBI South/South Detour Capital Outlay Support	0120RX	29.4	36.6	66.0	56.6	66.0	
Capital Outlay Construction		132.0	310.2	442.2	277.0	461.2	19.0
Total		161.4	346.8	508.2	333.6	527.2	19.0
YBI Transition Structures (see notes							
below) Capital Outlay Support	0120PX	70 7		70 7	22.4	78.7	
Capital Outlay Support Capital Outlay Construction		78.7 299.3	(23.2)	78.7 276.1	23.1	76.7 276.1	-
Total		378.0	(23.2)	354.8	23.1	354.8	_
* YBI- Transition Structures Contract		0.0.0	(20.2)	00	20	000	
No. 1							
Capital Outlay Support					4.2	45.0	
Capital Outlay Construction					-	214.3	
Total					4.2	259.3	
* YBI- Transition Structures Contract No. 2							
Capital Outlay Support					2.5	16.0	
Capital Outlay Support  Capital Outlay Construction					2.5	58.5	
Total					2.5	74.5	
* YBI- Transition Structures Contract					2.0	74.0	
No. 3 Landscape							
Capital Outlay Support					-	1.0	
Capital Outlay Construction					-	3.3	
Total					-	4.3	
<b>A</b>	242247						
Oakland Touchdown (see notes below) Capital Outlay Support	01204X	74.4	_	74.4	50.8	92.1	17.7
Capital Outlay Construction		283.8	-	283.8	153.3	302.5	18.7
Total		358.2	-	358.2	204.1	394.6	36.4
* OTD Submarine Cable	0120K4						
Capital Outlay Support					0.9	3.0	
Capital Outlay Construction					7.9	9.6	
Total					8.8	12.6	
* OTD No. 1 (Westbound)	0120L4						
Capital Outlay Support					27.2	49.9	
Capital Outlay Construction					145.4	226.5	
Total					172.6	276.4	
* OTD No. 2 (Eastbound)	0120M4						
Capital Outlay Support					2.1	15.8	
Capital Outlay Construction					-	62.0	
Total					2.1	77.8	
* OTD Electrical Systems	0120N4						
Capital Outlay Support					0.9	1.4	
Capital Outlay Construction					-	4.4	
Total	and Taxable !	0			0.9	5.8	u

Notes: YBI Transition Structures and Oakland Touchdown Cost-to-Date and Cost Forecast includes prior-to-split Capital Outlay Support Costs.

# Appendix A: Toll Bridge Seismic Retrofit Program (\$ Millions)

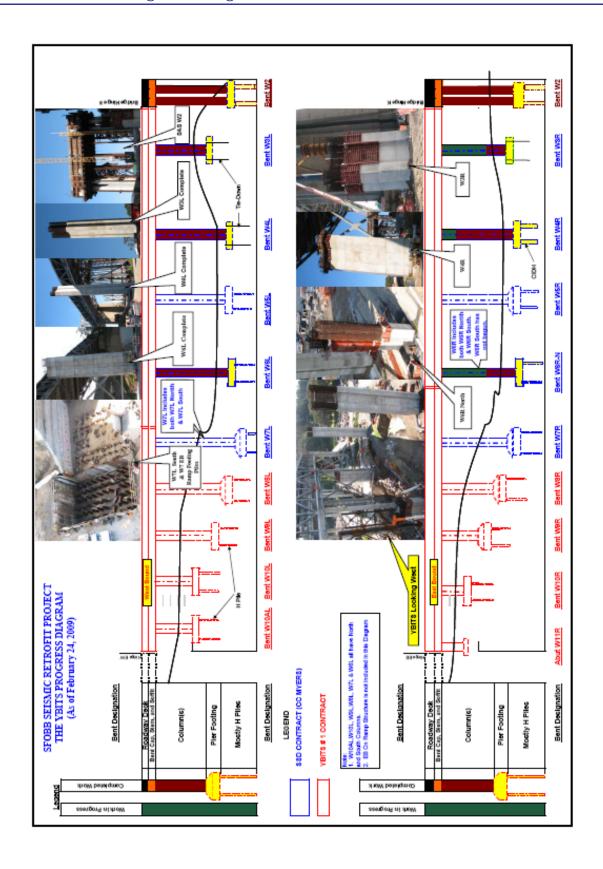
# San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project Cost Detail (Cont'd.)

Contract	EA Number	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (01/2009)	Cost To Date (01/2009)	Cost Forecast (01/2009)	At-Completion Variance
a	b	С	d	e = c + d	f	g	h = g - e
Existing Bridge Demolition Capital Outlay Support Capital Outlay Construction Total	01209X	79.7 239.2 318.9	- - -	79.7 239.2 318.9	0.4 - 0.4	79.7 222.0 301.7	- (17.2) (17.2)
YBI/SAS Archeology Capital Outlay Support Capital Outlay Construction Total	01207X	1.1 1.1 2.2	- - -	1.1 1.1 2.2	1.1 1.1 2.2	1.1 1.1 2.2	- - -
YBI - USCG Road Relocation Capital Outlay Support Capital Outlay Construction Total	0120QX	3.0 3.0 6.0		3.0 3.0 6.0	2.7 2.8 5.5	3.0 3.0 6.0	- - -
YBI - Substation and Viaduct Capital Outlay Support Capital Outlay Construction Total	0120GX	6.5 11.6 18.1	- - -	6.5 11.6 18.1	6.4 11.3 17.7	6.5 11.6 18.1	- - -
Oakland Geofill Capital Outlay Support Capital Outlay Construction Total	01205X	2.5 8.2 10.7		2.5 8.2 10.7	2.5 8.2 10.7	2.5 8.2 10.7	- - -
Pile Installation Demonstration Project Capital Outlay Support Capital Outlay Construction Total	01208X	1.8 9.2 11.0	- - -	1.8 9.2 11.0	1.8 9.2 11.0	1.8 9.2 11.0	- - -
Stormwater Treatment Measures Capital Outlay Support Capital Outlay Construction Total	0120JX	6.0 15.0 21.0	2.0 3.3 5.3	8.0 18.3 26.3	8.1 16.7 24.8	8.0 18.3 26.3	- - -
Right-of-Way and Environmental Mitigation Capital Outlay Support Capital Outlay & Right-of-Way	0120X9	- 72.4	- -	- 72.4	- 50.1	- 72.4	- -
Total	04343X & 0	72.4 <b>04300X</b>	-	72.4	50.1	72.4	-
Sunk Cost - Existing East Span Retrofit Capital Outlay Support Capital Outlay Construction Total		39.5 30.8 70.3	- - -	39.5 30.8 70.3	39.5 30.8 70.3	39.5 30.8 70.3	- - -
Other Capital Outlay Support Environmental Phase Pre-Split Project Expenditures Non-project Specific Costs Total		97.7 44.9 20.0 162.6	- (1.0) (1.0)		97.7 44.9 3.2 145.8	97.7 44.9 19.0 161.6	- - - -
Subtotal Capital Outlay Support		959.3	-	959.3	685.9	977.1	17.7
Subtotal Capital Outlay Construction Other Budgeted Capital		4,492.2 35.1	218.8 (3.3)	4,711.0 31.8	2,715.5 0.7	4,745.2 7.7	34.2 (24.1)
Total SFOBB East Span Replacement Project		5,486.6	215.5	5,702.1	3,402.1	5,730.0	27.9

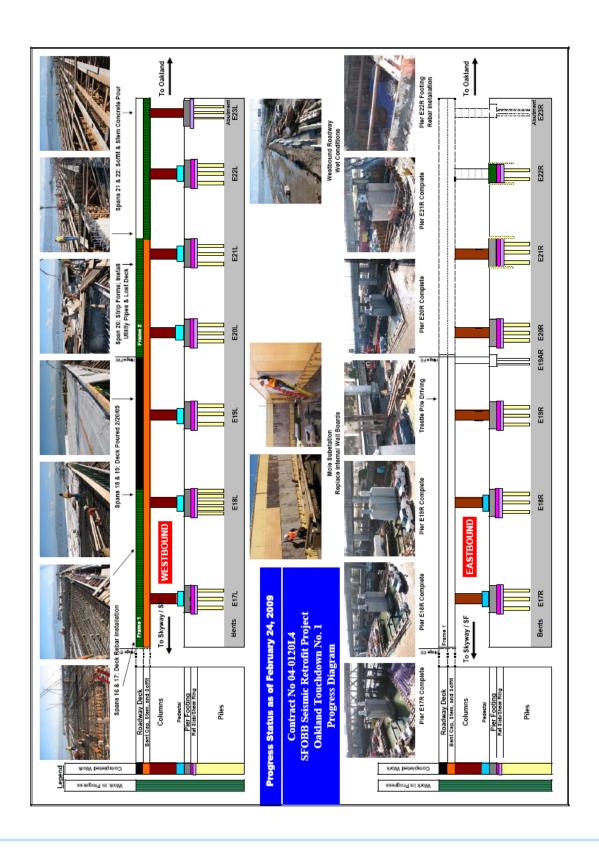
# Appendix B: Toll Bridge Seismic Retrofit Program Cost Detail (\$ Millions)

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (01/2009)	Cost To Date (01/2009)	Cost Forecast (01/2009)	At-Completion Variance
a	С	d	e = c + d	f	g	h = g - e
SFOBB East Span Replacement Project						
Capital Outlay Support	959.3	_	959.3	685.9	977.1	17.8
Capital Outlay Construction	4.492.2	218.8	4.711.0	2,715.5	4.745.2	34.2
Other Budgeted Capital	35.1	(3.3)	31.8	0.7	7.7	(24.1)
Total	5,486.6	215.5	5,702.1	3,402.1	5,730.0	27.9
SFOBB West Approach Replacement	0,400.0	210.0	0,702.1	0,402.1	5,750.0	27.0
Capital Outlay Support	120.0	_	120.0	113.5	120.0	_
Capital Outlay Construction	309.0	41.7	350.7	307.1	350.7	
Total	429.0	41.7	470.7	420.6	470.7	
SFOBB West Span Retrofit	423.0	41.7	470.7	420.0	470.7	_
Capital Outlay Support	75.0		75.0	74.8	75.0	-
Capital Outlay Support  Capital Outlay Construction	232.9	-	232.9	227.2	232.9	-
Total	307.9	-	307.9	302.0	307.9	-
	307.9	-	307.9	302.0	307.9	-
Richmond-San Rafael Bridge Retrofit	404.0	(7.0)	407.0	400.7	407.0	
Capital Outlay Support	134.0 780.0	(7.0)	127.0 689.5	126.7 668.1	127.0 689.5	-
Capital Outlay Construction		(90.5)				-
Total	914.0	(97.5)	816.5	794.8	816.5	-
Benicia-Martinez Bridge Retrofit	00.4		00.4	00.4	00.4	-
Capital Outlay Support	38.1	-	38.1	38.1	38.1	-
Capital Outlay Construction	139.7	-	139.7	139.7	139.7	-
Total	177.8	-	177.8	177.8	177.8	-
Carquinez Bridge Retrofit						
Capital Outlay Support	28.7	-	28.7	28.8	28.7	-
Capital Outlay Construction	85.5	-	85.5	85.4	85.5	-
Total	114.2	-	114.2	114.2	114.2	-
San Mateo-Hayward Bridge Retrofit						-
Capital Outlay Support	28.1	-	28.1	28.1	28.1	-
Capital Outlay Construction	135.4	-	135.4	135.3	135.4	-
Total	163.5	-	163.5	163.4	163.5	-
Vincent Thomas Bridge Retrofit (Los Angeles)						
Capital Outlay Support	16.4	-	16.4	16.4	16.4	-
Capital Outlay Construction	42.1	-	42.1	42.0	42.1	-
Total	58.5	-	58.5	58.4	58.5	-
San Diego-Coronado Bridge Retrofit						
Capital Outlay Support	33.5	-	33.5	33.2	33.5	-
Capital Outlay Construction	70.0	-	70.0	69.4	70.0	-
Total	103.5	_	103.5	102.6	103.5	-
Subtotal Capital Outlay Support	1,433.1	(7.0)	1,426.1	1,145.5	1,443.9	17.8
Subtotal Capital Outlay	6,286.8	170.0	6,456.8	4,389.7	6,491.0	34.2
Subtotal Other Budgeted Capital	35.1	(3.3)	31.8	0.7	7.7	(24.1)
Miscellaneous Program Costs	30.0	(3.3)	30.0	24.7	30.0	(24.1)
Subtotal Toll Bridge Seismic Retrofit Program	7,785.0	159.7	7,944.7	5,560.6	7,972.6	27.9
Program Contingency	7,785.0 900.0	(159.7)	7,944.7	5,560.6	7,972.6	(27.9)
Frogram Contingency	900.0	(109.7)	740.3	-	112.4	(27.9)
Total Toll Bridge Seismic Retrofit Program	8,685.0	-	8,685.0	5,560.6	8,685.0	-

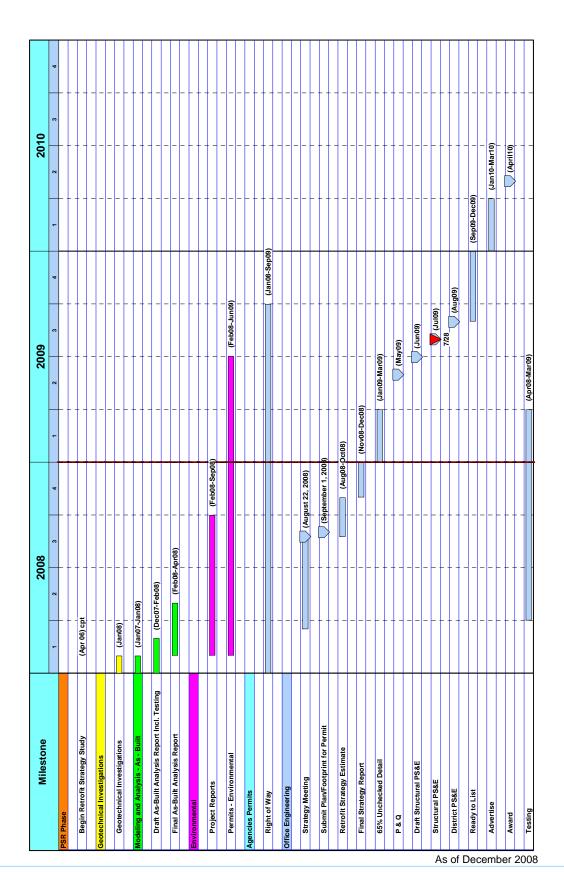
# Appendix C: YBITS Progress Diagram



# Appendix D: OTD #1 Progress Diagram

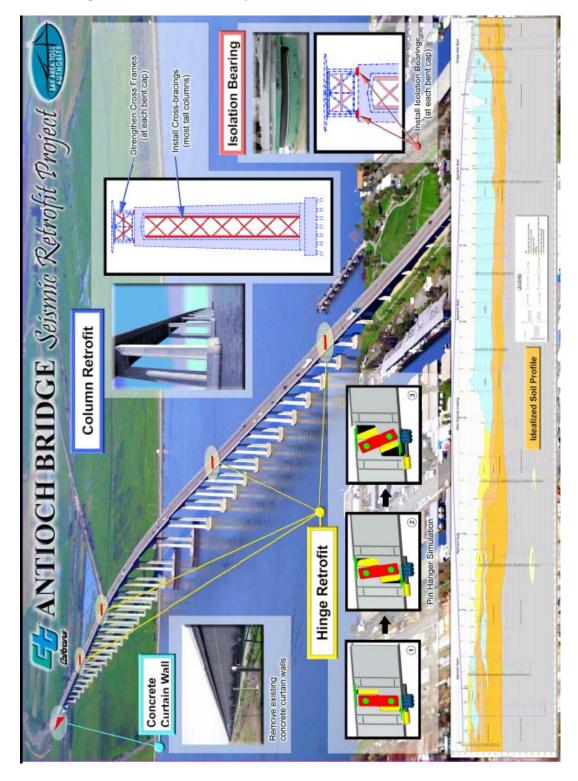


Appendix E: Antioch/Dumbarton Bridge Baseline Schedule



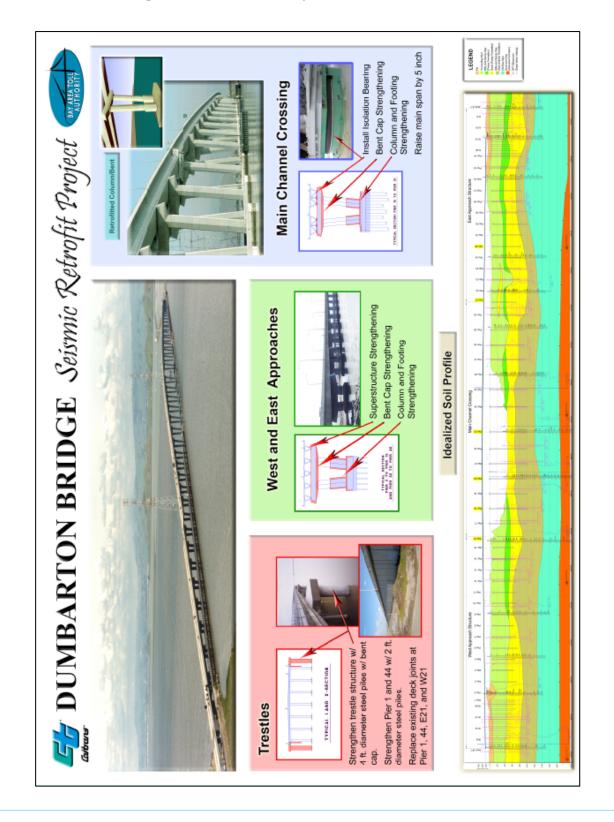
# Appendix F. Antioch and Dumbarton Bridges Seismic Retrofit Diagrams

## **Antioch Bridge Seismic Retrofit Project**



### Appendix F. Antioch and Dumbarton Bridges Seismic Retrofit Diagrams (cont.)

#### **Dumbarton Bridge Seismic Retrofit Project**



# Appendix G: Regional Measure 1 Program Cost Detail (\$ Millions)

Project	EA Number	BATA Budget (07/2005)	Approved Changes	Current Approved Budget (01/2009)	Cost To Date (01/2009)	Cost Forecast (01/2009)	At-Completion Variance
a	b	С	d	e = c + d	f	g	h = g - e
New Benicia-Martinez Bridge Project							
New Bridge	00603_						
Capital Outlay Support		84.9	6.7	91.6	91.7	91.6	-
Capital Outlay Construction				-			-
BATA Funding		661.9	94.6	756.5	753.7	756.5	-
Non-BATA Funding		10.1	-	10.1	10.1	10.1	-
Subtotal		672.0	94.6	766.6	763.8	766.6	-
Total		756.9	101.3	858.2	855.5	858.2	-
I-680/I-780 Interchange Reconstruction	00606						
Capital Outlay Support							
BATA Funding		24.9	5.2	30.1	30.0	30.1	_
Non-BATA Funding		1.4	5.2	6.6	6.3	6.6	_
Subtotal		26.3	10.4	36.7	36.3	36.7	
		20.3	10.4	30.7	30.3	30.7	-
Capital Outlay Construction			00.0	04.0	4	24.0	
BATA Funding		54.7	26.9	81.6	77.1	81.6	-
Non-BATA Funding		21.6	-	21.6	21.7	21.6	-
Subtotal		76.3	26.9	103.2	98.8	103.2	-
Total		102.6	37.3	139.9	135.1	139.9	-
I-680/Marina Vista Interchange							
Reconstruction	00605						
Capital Outlay Support		18.3	1.8	20.1	20.0	20.1	_
Capital Outlay Construction		51.5	4.9	56.4	56.1	56.4	_
Total		69.8	6.7	76.5	76.1	76.5	_
Total		03.0	0.7	70.5	70.1	70.5	
New Toll Plaza and Administration Building	00604						
Capital Outlay Support	00004_	11.9	3.8	15.7	15.7	15.7	_
Capital Outlay Construction		24.3	2.0	26.3	23.5	26.3	
							-
Total		36.2	5.8	42.0	39.2	42.0	-
Existing Bridge & Interchange Modifications	0060A_						
Capital Outlay Support		4.3	14.3	18.6	14.4	18.6	-
Capital Outlay Construction							
BATA Funding		17.2	32.8	50.0	20.2	50.0	-
Non-BATA Funding		-	9.5	9.5	-	9.5	-
Subtotal		17.2	42.3	59.5	20.2	59.5	-
Total		21.5	56.6	78.1	34.6	78.1	-
Other Contracts	See note below						
	See Hote below	44.4	(4.0)	9.6	77	9.6	
Capital Outlay Support		11.4	(1.8)		7.7		-
Capital Outlay Construction		20.3	2.8	23.1	16.2	23.1	-
Capital Outlay Right-of-Way		20.4	(0.1)		17.0	20.3	-
Total		52.1	0.9	53.0	40.9	53.0	-
Subtotal BATA Capital Outlay Support		155.7	30.0	185.7	179.5	185.7	-
Subtotal BATA Capital Outlay Construction		829.9	164.0	993.9	946.8	993.9	-
Subtotal Capital Outlay Right-of-Way		20.4	(0.1)		17.0	20.3	_
Subtotal Non-BATA Capital Outlay Support		1.4	5.2	6.6	6.3	6.6	_
Subtotal Non-BATA Capital Outlay Support	ion	31.7	9.5	41.2	31.8	41.2	
	IOII						
Project Reserves		20.8	4.0	24.8	-	24.8	-
Total New Benicia-Martinez Bridge Project		1,059.9	212.6	1,272.5	1,181.4	1,272.5	_
Total New Defilcia-Martinez Bridge Froject		1,000.0	212.0	1,212.3	1,101.4	1,212.3	-

Notes:

Includes EA's 00601\_,00603\_,00605\_,00606\_, 00608\_, 00609\_, 0060A\_, 0060C\_, 0060E\_, 0060F\_, 0060G\_, and 0060H\_ and all Project Right-of-Way

# Appendix G: Regional Measure 1 Program Cost Detail (\$ Millions) (Cont'd.)

Project	EA Number	BATA Budget (07/2005)	Approved Changes	Current Approved Budget (01/2009)	Cost To Date (01/2009)	Cost Forecast (01/2009)	At-Completion Variance
а	b	С	d	e = c + d	f	g	h = g - e
Carquinez Bridge Replacement Project							
New Bridge	01301_						
Capital Outlay Support		60.5	(0.3)	60.2	60.2	60.2	-
Capital Outlay Construction		253.3	4.0	257.3	255.9	257.3	-
Total		313.8	3.7	317.5	316.1	317.5	-
Crockett Interchange Reconstruction	01305_						
Capital Outlay Support		32.0	(0.1)	31.9	31.9	31.9	-
Capital Outlay Construction		73.9	-	73.9	71.9	73.9	-
Total		105.9	(0.1)	105.8	103.8	105.8	-
Existing 1927 Bridge Demolition	01309						
Capital Outlay Support	_	16.1	_	16.1	15.5	15.5	(0.6)
Capital Outlay Construction		35.2	-	35.2	34.9	35.2	`- ′
Total		51.3	-	51.3	50.4	50.7	(0.6)
Other Contracts	See note below						
Capital Outlay Support		15.8	0.2	16.0	16.2	16.3	0.3
Capital Outlay Construction		18.8	(0.8)	18.0	16.1	18.1	0.1
Capital Outlay Right-of-Way		10.5	`- ′	10.5	9.9	10.5	-
Total		45.1	(0.6)	44.5	42.2	44.9	0.4
Subtotal BATA Capital Outlay Support		124.4	(0.2)	124.2	123.8	123.9	(0.3)
Subtotal BATA Capital Outlay Construction		381.2	3.2	384.4	378.8	384.5	0.1
Subtotal Capital Outlay Right-of-Way		10.5	-	10.5	9.9	10.5	-
Project Reserves		12.1	(3.0)	9.1	-	0.3	(8.8)
Total Carquinez Bridge Replacement	Project	528.2	-	528.2	512.5	519.2	(9.0)

Notes:

Other Contracts includes EA's 01301\_,01302\_, 01303\_, 01304\_,01305\_, 01306\_, 01307\_, 01308\_, 01309\_,0130A\_, 0130C\_, 0130D\_, 0130F\_, 0130G\_, 0130H\_, 0130J\_, 00453\_, 00493\_, 04700\_, 00607\_, 2A270\_, and 29920\_ and all Project Right-of-Way

# Appendix G: Regional Measure 1 Program Cost Detail (\$ Millions) (Cont'd.)

Project	EA Number	BATA Budget (07/2005)	Approved Changes	Current Approved Budget (01/2009)	Cost To Date (01/2009)	Cost Forecast (01/2009)	At-Completion Variance
а	b	С	d	e = c + d	f	g	h = g - e
Dishmand Can Defeat Bridge Treette Fander							
Richmond-San Rafael Bridge Trestle, Fender, and Deck Joint Rehabilitation	See note 1 bel	ow					
Capital Outlay Support	Occ note Del						
BATA Funding		2.2	_	2.2	1.4	2.2	-
Non-BATA Funding		8.6	-	8.6	10.4	10.4	1.8
Subtotal		10.8	-	10.8	11.8	12.6	1.8
Capital Outlay Construction							
BATA Funding		40.2	-	40.2	33.4	33.4	(6.8)
Non-BATA Funding		51.1	-	51.1	51.1	51.1	-
Subtotal		91.3	-	91.3	84.5	84.5	(6.8)
Project Reserves		-	-	-	-	-	-
Total		102.1	-	102.1	96.3	97.1	(5.0)
Pichmond San Potaci Pridge Dock Overlay							
Richmond-San Rafael Bridge Deck Overlay	04152						
Rehabilitation	04152_						
Capital Outlay Support		4.0	(0.4)	0.0	0.0	0.0	
BATA Funding		4.0	(0.4)	3.6	3.3	3.6	-
Non-BATA Funding		4.0	(4.0)	-	-	-	-
Subtotal Capital Outlay Construction		8.0	(4.4)	3.6	3.3	3.6	(4.0)
		16.9	3.6	20.5	16.3	16.2	(4.3)
Project Reserves Total		0.1 25.0	0.8	0.9 25.0	19.6	5.2 25.0	4.3
Total		25.0	-	25.0	19.6	25.0	-
Richmond Parkway Project (RM 1 Share Only)	Non-Caltrans						
Capital Outlay Support		_	_	_	_	_	_
Capital Outlay Construction		5.9	_	5.9	4.3	5.9	_
Total		5.9	-	5.9	4.3	5.9	-
San Mateo-Hayward Bridge Widening	See note 2 bel						
Canital Outlant Summert	See note bei		(0.2)	24.2	24.4	24.2	
Capital Outlay Support		34.6	(0.3)	34.3	34.1	34.3	(4.0)
Capital Outlay Construction		180.2 1.5	-	180.2 1.5	174.1 0.5	176.2 0.6	(4.0)
Capital Outlay Right-of-Way Project Reserves		1.5	0.3	1.5	0.5	0.6	(0.9)
Total		217.8	0.3	217.8	208.7	211.9	(1.0) (5.9)
Total		217.0	-	217.0	200.7	211.9	(5.9)
I-880/SR-92 Interchange Reconstruction	EA's 23317_, (	01601_, and 01					
Capital Outlay Support		28.8	26.2	55.0	45.0	55.0	-
Capital Outlay Construction							
BATA Funding		85.2	60.2	145.4	54.7	145.4	-
Non-BATA Funding		9.6	-	9.6	-	9.6	-
Subtotal		94.8	60.2	155.0	54.7	155.0	-
Capital Outlay Right-of-Way		9.9 0.3	7.0	16.9 18.1	11.6	16.9 18.1	-
Project Reserves Total		133.8	17.8 111.2	245.0	111.3	245.0	-
				245.0	111.3	245.0	-
Bayfront Expressway Widening	EA's 00487_, (	01511_, and 01					
Capital Outlay Support		8.6	(0.3)	8.3	8.3	8.2	(0.1)
Capital Outlay Construction		26.5	-	26.5	24.9	26.5	-
Capital Outlay Right-of-Way		0.2	-	0.2	0.2	0.2	-
Project Reserves		0.8	0.3	1.1	-	1.1	- (0.1)
Total		36.1	-	36.1	33.4	36.0	(0.1)
US 101/University Avenue Interchange							
Modification	Non-Caltrans						
Capital Outlay Support		-	-	-	-	-	-
Capital Outlay Construction  Total		3.8 3.8	-	3.8 3.8	3.7 3.7	3.8 3.8	-
. 0.001		5.0	_	5.0	0.1	3.0	
Subtotal BATA Capital Outlay Support		358.3	55.0	413.3	395.4	412.9	(0.4)
Subtotal BATA Capital Outlay Construction		1,569.8	231.0	1,800.8	1,637.0	1,785.8	(15.0)
Subtotal Capital Outlay Right-of-Way		42.5	6.9	49.4	39.2	48.5	(0.9)
			1.2	15.2	16.7	17.0	1.8
Subtotal Non-BATA Capital Outlay Support		14.0					
Subtotal Non-BATA Capital Outlay Construct	ion	92.4	9.5	101.9	82.9	101.9	-
	ion						(5.5) <b>(20.0)</b>

Notes:

 $<sup>^1</sup>$  Richmond-San Rafael Bridge Trestle, Fender, and Deck Joint Rehabilitation Includes Non-TBSRA Expenses for EA 0438U\_ and 04157\_

<sup>&</sup>lt;sup>2</sup> San Mateo-Hayward Bridge Widening Includes EA's 00305\_, 04501\_, 04502\_, 04503\_, 04504\_, 04505\_, 04506\_, 04507\_, 04508\_, 04509\_, 27740\_, 27790\_, 04860\_

#### Appendix H: Glossary of Terms

**AB144/SB 66 BUDGET:** The planned allocation of resources for the Toll Bridge Seismic Retrofit Program, or subordinate projects or contracts, as provided in Assembly Bill 144 and Senate Bill 66, signed into law by Governor Schwarzenegger on July 18, 2005 and September 29, 2005, respectively.

**BATA BUDGET:** The planned allocation of resources for the Regional Measure 1 Program, or subordinate projects or contracts as authorized by the Bay Area Toll Authority as of June 2005.

**APPROVED CHANGES:** For cost, changes to the AB144/SB 66 Budget or BATA Budget as approved by the Bay Area Toll Authority Commission. For schedule, changes to the AB 144/SB 66 Project Complete Baseline approved by the Toll Bridge Program Oversight Committee, or changes to the BATA Project Complete Baseline approved by the Bay Area Toll Authority Commission.

**CURRENT APPROVED BUDGET:** The sum of the AB144/SB66 Budget or BATA Budget and Approved Changes.

COST TO DATE: The actual expenditures incurred by the program, project or contract as of the month and year shown.

**COST FORECAST:** The current forecast of all of the costs that are projected to be expended so as to complete the given scope of the program, project, or contract.

**AT COMPLETION VARIANCE or VARIANCE (cost):** The mathematical difference between the Cost Forecast and the Current Approved Budget.

**AB 144/SB 66 PROJECT COMPLETE BASELINE:** The planned completion date for the Toll Bridge Seismic Retrofit Program or subordinate projects or contracts.

**BATA PROJECT COMPLETE BASELINE:** The planned completion date for the Regional Measure 1 Program or subordinate projects or contracts.

**PROJECT COMPLETE CURRENT APPROVED SCHEDULE:** The sum of the AB144/SB66 Project Complete Baseline or BATA Project Complete Baseline and Approved Changes.

**PROJECT COMPLETE SCHEDULE FORECAST:** The current projected date for the completion of the program, project, or contract.

**SCHEDULE VARIANCE or VARIANCE (schedule):** The mathematical difference expressed in months between the Project Complete Schedule Forecast and the Project Complete Current Approved Schedule.

The following information is provided in accordance with California Government code Section 755. This document is one of a series of reports prepared for the Bay Area Toll Authority (BATA)/Metropolitan Transportation Commission (MTC) for the Toll Bridge Seismic Retrofit and Regional Measure 1 Programs. The contract value for the monitoring efforts, technical analysis, and field site works that contribute to these reports, as well as the report preparation and production, is \$1,574,873.73.



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